

AMENDMENT TO THE SPECIFICATION

Please replace the paragraph beginning on page 7, line 9, and ending on page 7, line 17 with the following:

The mandrel 3234 is unitary and has an integral second support section 33, which is at an outer end and which has no temperature sensing element supported on it. The mandrel 3234 can be made of a solid, rigid material such as a platinum-rhodium alloy. The temperature sensing element 36 can comprise a thin high resistance platinum wire, or in certain applications a thin film can be supported on the first section 35 of the mandrel.

Please replace the paragraph beginning on page 8, line 4, and ending on page 9, line 3 with the following:

As was stated above, the coefficient of thermal expansion of aluminum is generally substantially different from the coefficient of thermal expansion of materials that are suitable for the mandrel or core 3234 and the resistance wire temperature sensing element 36. Internal stresses and strains on the resistance temperature sensing element will occur during contraction and expansion, as the thermometer 10 is subjected to temperature extremes if the temperature sensor section is rigidly potted in place. In order to minimize the internal stresses on the temperature sensing element 36 and to distribute the stresses and strains in all directions around the sensing element 36 more equally, the smaller diameter sensor element bore section 26 is formed to be slightly larger than the section 33A of the temperature sensing element assembly 32 ~~in on~~ the first mandrel section 3335 where the resistance wire 3536 is wound. The mandrel section 3335 is surrounded and supported with a low cohesion loose powder media indicated at 40 that is suitably packed in place around the first mandrel section 3335. A small plug of

quartz wool or other fibrous insulating material 41 is placed in a space between an inner end 100 of the mandrel section ~~33~~35 and the bottom 100 of the well or small diameter bore section 26. This quartz wool provides support as the sensor assembly 32 is inserted into the bore 26. The quartz wool 41 fills a space that can be difficult to pack with the powder media 40.

Please replace the paragraph beginning on page 10, line 5, and ending on page 10, line 19 with the following:

In order to support the temperature sensor assembly 32 in the housing 10 against vibrations and mechanical shock loading, the mandrel ~~32~~34 has ~~at~~the second support section 33 which extends outwardly from an interface line 43 at shoulder 30 joining the bore sections 26 and 28 where the low cohesion media filling is terminated. The sensor assembly support bore section 28, and the end bore or opening 20 are filled with a rigid potting material 44, that will rigidly and securely support the second mandrel support section 33 of the mandrel ~~32~~34 relative to the housing 10. The rigid potting material is formed into a convex (domed) shape at the top of the opening, to extend above the top surface of the housing portions 16 and 18.

Please replace the paragraphs beginning on page 10, line 25, and ending on page 11, line 17 with the following:

The rigid potting material 44 is also used as a plug to hold the low cohesion powder potting material 40 in place, at the interface or shoulder 30 between the two bore sections 26 and 28. Preferably an elastomeric O-ring 45 can be placed at this junction for forming a radial seal, which prevents the epoxy from wicking into the material 40. If desired, a metal ring or bushing can be used instead of the O-ring. The metal ring would be brazed

to the OD of mandrel section 33 and to the ID of the bore section 3828.

In addition, the potting material 44 securely holds the outer end second mandrel support section 33 so that the mandrel section 35 is held as a cantilever beam. This ensures good performance of the temperature sensing element 3536 during vibration and mechanical and thermal shock because the rigid potting material 44 provides structural support, and the low cohesion media or powder 40 provides a necessary cushion and also limits displacement of the mandrel section 35 and the resistance element or wire 36.

Please replace the paragraph beginning on page 12, line 1, and ending on page 12, line 11 with the following:

The rigid support potting material 44 at the support end portion of the mandrel section 33 essentially cantilevers the sensing element section 33A from a rigid or fixed support. Epoxy sold under the trademark Stycast® #2850 and epoxy sold under the marks Tra-Con® and Tri-bond® 816 H01 have been found to be suitable rigid epoxies, but other epoxies having similar characteristics can be utilized, as well as cements, as long as the mandrel support section 33 is held rigidly relative to the housing 10.